

ABSTRACT

A method and system for providing a magnetic memory is disclosed. The method and system include providing a plurality of magnetic elements and a plurality of reference layers. Each of the magnetic elements includes a free layer and a spacer layer. Each of the reference layers is coupled with a corresponding portion of the magnetic elements. The reference layers are ferromagnetic. A portion of each reference layer functions as at least a portion of a pinned layer for each of the corresponding portion of the magnetic elements. The portion of each of the plurality of reference layers also functions as a write line for the corresponding portion of the plurality of magnetic elements. The spacer layer resides between the free layer of each of the plurality of magnetic elements and the reference layer.